

Customer No.: 31561
Docket No.: 13794-US-PA
Application No.: 10/711,160

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To the Claims

1. (currently amended) A phase shift photomask, comprising:
a transparent substrate;
at least one isolated linear pattern on the substrate, including a transparent end portion with a phase shift of 180° relative to the substrate;
a plurality of dense linear patterns on the substrate; and
a transparent phase-shift region, located on the substrate adjacent to ends of the dense linear patterns and having a phase shift of 90° relative to the substrate,
wherein no phase shift region is present between any two neighboring dense linear patterns.
2. (original) The phase shift photomask of claim 1, wherein the substrate comprises quartz or glass.
3. (currently amended) The phase shift photomask of claim 1, wherein the dense linear patterns and the isolated linear pattern except its transparent end portion each comprise an opaque linear-layer layer.
4. (currently amended) The phase shift photomask of claim 1, wherein the dense linear patterns and the isolated linear pattern except its transparent end portion each comprise a semi-transparent linear-layer layer with a phase shift of 180° relative to the substrate.
5. (currently amended) The phase shift photomask of claim 1, wherein the transparent end portion of the isolated linear pattern and the transparent phase-shift region each comprise a recessed-portion portion of the substrate.

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6. (original) The phase shift photomask of claim 1, including a pair of opposite isolated linear patterns with their transparent end portions facing each other.

7. (original) The phase shift photomask of claim 1, wherein the dense linear patterns include two groups of dense linear patterns separated by the transparent phase-shift region, wherein the ends of the dense linear patterns in each group are adjacent to the transparent phase-shift region.

8. (currently amended) A phase shift photomask, comprising:

a transparent substrate; and

an isolated linear pattern on the substrate, including a transparent end portion with a phase shift of 180° relative to the substrate without a phase shift region adjacent to two sides thereof, wherein the transparent end portion is disposed in a manner such that an end of an isolated linear photoresist pattern defined by the isolated linear pattern in a lithography process is covered by the transparent end portion in the lithography process.

9. (original) The phase shift photomask of claim 8, wherein the substrate comprises quartz or glass.

10. (original) The phase shift photomask of claim 8, wherein the isolated linear pattern except its transparent end portion comprises an opaque linear layer.

11. (original) The phase shift photomask of claim 8, wherein the isolated linear pattern except its transparent end portion comprises a semi-transparent linear layer with a phase shift of 180° relative to the substrate.

12. (original) The phase shift photomask of claim 8, wherein the transparent end portion of the isolated linear pattern comprises a recessed portion of the substrate.

13. (original) The phase shift photomask of claim 8, including a pair of opposite

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isolated linear patterns with their transparent end portions facing each other.

14. (currently amended) A phase shift photomask, comprising:

a transparent substrate;

a plurality of dense linear patterns on the substrate; and

a transparent phase-shift region, located on the substrate adjacent to ends of the dense linear patterns and having a phase shift of 90° relative to the substrate,

wherein no phase shift region is present between any two neighboring dense linear patterns.

15. (original) The phase shift photomask of claim 14, wherein the substrate comprises quartz or glass.

16. (original) The phase shift photomask of claim 14, wherein the dense linear patterns comprise opaque linear layers.

17. (original) The phase shift photomask of claim 14, wherein the dense linear patterns comprise semi-transparent linear layers with a phase shift of 180° relative to the substrate.

18. (original) The phase shift photomask of claim 14, wherein the transparent phase-shift region comprises a recessed portion of the substrate.

19. (original) The phase shift photomask of claim 14, wherein the dense linear patterns include two groups of dense linear patterns separated by the transparent phase-shift region, wherein the ends of the dense linear patterns in each group are adjacent to the transparent phase-shift region.